IN THE CLAIMS

1. (Currently Amended) An apparatus for rapidly applying ~~one or more components~~ at least one component of ~~two or more~~ each of at least two materials to addressable predefined locations on an array of electrodes, the apparatus comprising:

at least two ~~or more~~ electrodes contained in said array; and

an assembly for applying an electrical potential or current from a power source to each ~~electrode~~ of the electrodes, wherein the electrodes are addressable through the assembly, and wherein said ~~one or more components~~ at least one component of ~~two or more~~ said each of said materials is operatively supplied to the array of electrodes, said electrical potential or current causing the components of the materials to deposit at said addressable predefined locations.

2. (Original) The apparatus of claim 1, wherein said electrodes are the addressable predefined locations.

3. (Currently Amended) The ~~aparatus~~ apparatus of claim 2, wherein the assembly includes a controller to ~~controls~~ control the electrical potential or current for each said electrode.

4. (Currently Amended) The apparatus of claim 3, wherein the electrode array ~~contains~~ includes at least twenty ~~or more~~ said electrodes.

5. (Currently Amended) The apparatus of claim 4, wherein the electrode array ~~contains~~ includes at least one hundred ~~or more~~ said electrodes.

6. (Currently Amended) The apparatus of claim 5, wherein the electrode array ~~contains~~ includes at least ten thousand ~~or more~~ said electrodes.

7. (Original) The apparatus of claim 5, wherein said assembly includes a reference electrode.

8. (Currently Amended) The apparatus of claim 7, wherein the reference electrode is movable to operatively adjust depositions.

9. (Original) The apparatus of claim 5, wherein said assembly includes a counter electrode.

10. (Currently Amended) The apparatus of claim 9, wherein the counter electrode is movable to operatively adjust depositions.

11. (Original) The apparatus of claim 5, wherein the array of electrodes includes a highly resistive substrate below said electrodes, a highly conductive material above said highly resistive substrate and around said electrodes, and a second highly resistive material above said highly conductive material and

around said electrodes wherein the second highly resistive material does not cover the electrodes.

12. (Original) The apparatus of claim 11, wherein the array of electrodes is a microelectrode array.

13. (Currently Amended) The apparatus of claim 12, wherein the electrodes are at most 1 mm ~~or less~~ in diameter.

14. (Currently Amended) The apparatus of claim 13, wherein the electrodes are at most 100 um ~~or less~~ in diameter.

15. (Currently Amended) The apparatus of claim 5, wherein said ~~one or more components~~ at least one component of said ~~two or more~~ each of at least two materials is entrained in a solution when operatively supplied to said assembly.

16. (Currently Amended) The apparatus of claim 15, wherein at least one of said ~~one or more components~~ at least one component is a kinetically sluggish precursor.

17. (Currently Amended) The apparatus of claim 15, wherein said solution ~~contains one or more~~ includes at least two passivating agents.

18. (Currently Amended) The apparatus of claim 5, wherein the assembly includes a flow cell, whereby the ~~one or more components~~ at least one component of said each of the ~~two or more~~ at least two materials is supplied to the array of said electrodes in varying concentrations of said components.

19. (Currently Amended) A method of rapidly applying ~~one or more components~~ at least one component of each of at least two ~~two or more~~ materials to addressable predefined locations on an array of electrodes, ~~the method~~ comprising ~~the steps of;~~:

applying a potential to ~~one or more~~ at least one first ~~electrodes~~ electrode on said array of electrodes;

depositing at least said ~~one or more components~~ at least one component of each of the ~~two or more~~ at least two materials onto said ~~one or more~~ at least one first ~~electrodes~~ electrode;

applying a second potential to ~~one or more~~ at least one second ~~electrodes~~ electrode on said array of electrodes;

depositing at least said ~~one or more components~~ at least one component of each of the ~~two or more~~ at least two materials onto said ~~one or more~~ at least one second ~~electrodes~~ electrode,

wherein ~~the~~ said ~~one or more components~~ at least one component of each of the ~~two or more~~ at least two materials deposited on the ~~one or more~~ at least one second ~~electrodes~~ electrode varies in composition from the ~~said one or~~

~~more components~~ at least one component of each of the ~~two or more~~ at least two materials deposited on the ~~one or more~~ at least one first ~~electrodes~~ electrode.

20. (Currently Amended) A method of rapidly applying ~~one or more components~~ at least one respective component of each of ~~two or more~~ at least two materials to addressable predefined locations on an array of electrodes, ~~the method~~ comprising ~~the steps of;~~:

varying concentrations of the ~~one or more~~ components ~~of the two or more materials~~ over time;

applying a potential to ~~one or more~~ at least one first ~~electrodes~~ electrode on said array of electrodes;

depositing at least ~~said one or more~~ the components ~~of the two or more materials~~ onto said ~~one or more~~ at least one first ~~electrodes~~ electrode to form a respective deposit on each of said at least one first electrode;

applying a second potential to ~~one or more~~ at least one second ~~electrodes~~ electrode on said array of electrodes;

depositing at least said ~~one or more~~ components ~~of the two or more materials~~ onto said ~~one or more~~ at least one second ~~electrodes~~ electrode to form a respective deposit on each of said at least one second electrode,

wherein ~~the~~ said ~~one or more~~ components ~~of the two or more materials~~ deposited on the ~~one or more~~ at least one second ~~electrodes~~ electrode ~~varies~~ vary in composition from the ~~said one or more~~ components ~~of the two or~~

~~more materials~~ deposited on the ~~one or more~~ at least one first ~~electrodes~~ electrode.

21. (Currently Amended) The method of claim 20, wherein said ~~one or more~~ components ~~of the two or more materials is~~ are supplied by a flow cell.

22. (Currently Amended) The method of claim 21, wherein said applying steps ~~comprise;~~ include adjusting the potential to operatively supply an overpotential at said at least one electrode whereby the depositing of said ~~one or more~~ components leads to uniform morphologies at each said ~~one or more electrodes~~ at least one electrode.

23. (Currently Amended) The method of claim 21, wherein said applying steps ~~comprise;~~ include controlling the potential at each said ~~one or more electrodes~~ at least one electrode by pulse electrode position whereby a depositing potential is applied followed by a resting potential in cycles until said each ~~one or more~~ at least one electrode is deposited with said respective composition.

24. (Currently Amended) The method of claim 21, wherein said applying steps ~~comprise;~~ include applying a second potential to ~~every~~ the other ~~electrode~~ electrodes in the array[[;]] whereby the ~~said one or more~~ electrodes not being supplied a depositing potential are supplied a holding potential to prevent ~~exchasnge~~ exchange reactions.

25. (Currently Amended) The method of claim 21, wherein said ~~one or more~~ components are kinetically sluggish precursors.

26. (Currently Amended) The method of claim 21, wherein said varying step ~~comprises;~~ includes moving a reference or counter electrode.

27. (Currently Amended) The method of claim 20, wherein said depositing steps ~~comprise;~~ include controlling the morphology of each of said deposits ~~deposit~~.

28. (Currently Amended) The ~~methods~~ method of ~~claims~~ claim 21~~-27~~, wherein said applying step and said depositing step is repeated one thousand times in rapid sequence whereby at least one thousand different compositions are deposited onto the array of electrodes.

29. (Original) A material developed by high rate deposition, synthesis and/or analysis of materials on an array of electrodes.

30. (Original) The material in claim 29, wherein deposition control techniques in conjunction with the electrode array are employed whereby a desired characteristic is developed.